The Impact of Auditory Distraction on Reading Comprehension
An Individual Differences Investigation

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Introduction

Research Question

Does auditory distraction impair reading comprehension performance across different settings?

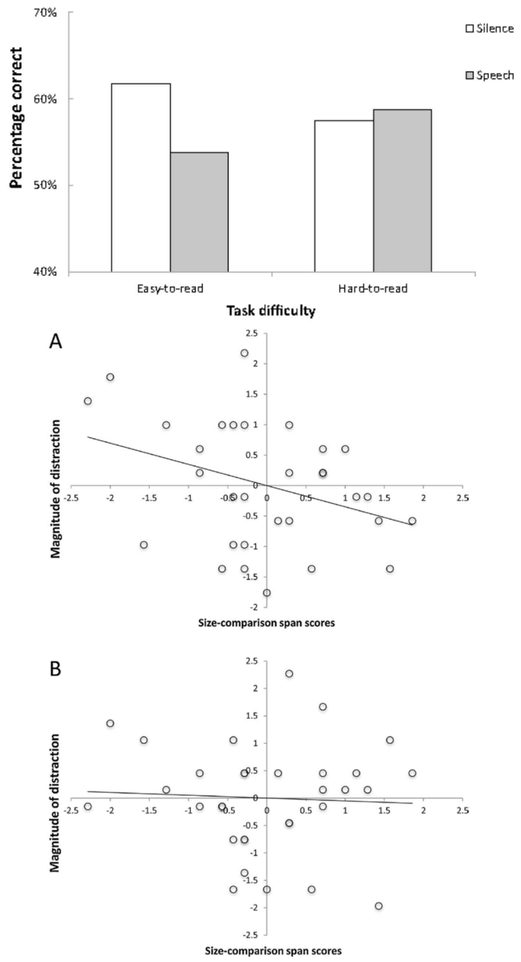
Motivation

The Disfluency Effect: Perceptually difficult task may improve performance (e.g. hard-to-read font)
The Shield Effect: Disfluency manipulation can shield attention from being impaired by distraction
Individual Differences: Working memory capacity, attention, and reading comprehension

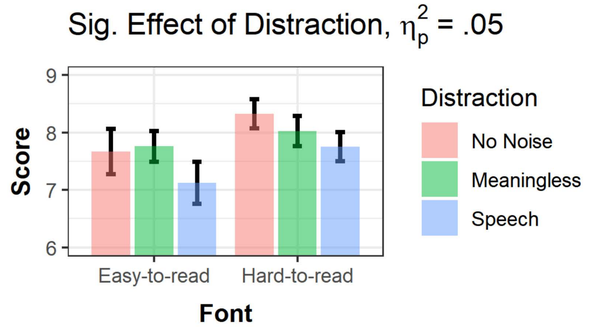
The Present Study

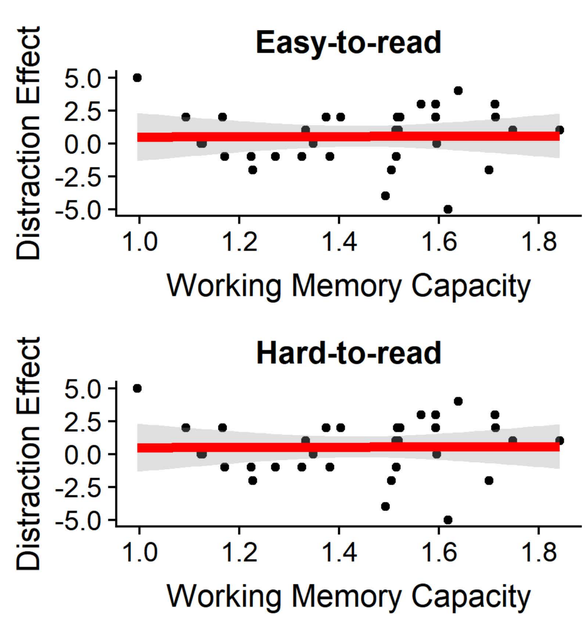
A replication and extension of Halin et al. (2014) on the shield effect in reading comprehension
Investigation of the effect of auditory distraction, perceptual difficulty, and working memory capacity on reading task performance

Halin et al. (2014)



The Present study





Method

Design & Participants

2 by 3 Mixed Factorial, N = 33 + 40
Font: Easy-to-read vs. **Hard-to-read**
Distraction: **No noise / Meaningless / Speech**

Procedure & Materials

WMC Tasks: Reading span & rotation span
Reading Tests: 3 reading tests with 3 levels of distraction
Manipulation Checks: Reading speed and subjective perception of difficulty

Results

No difference in reading speed between two fonts
Reading with no distraction was perceived to be easier
Group Level: Main effect of distraction, no main effect of font, and no interaction between font and distraction
Individual Level: No correlation between WMC and distraction effect, no moderation of font

Conclusion

Halin et al. (2014) not replicated: Perceptual difficulty did not shield task performance from being impaired by auditory distraction.
Overall, task performance is impaired when a background noise exists.
The shield effect of disfluency on reading tasks is not reliable.

Future Research

More questions for each reading test
Larger sample size
Recall/recognition questions vs. comprehension questions
Memory performance on the distractor speech